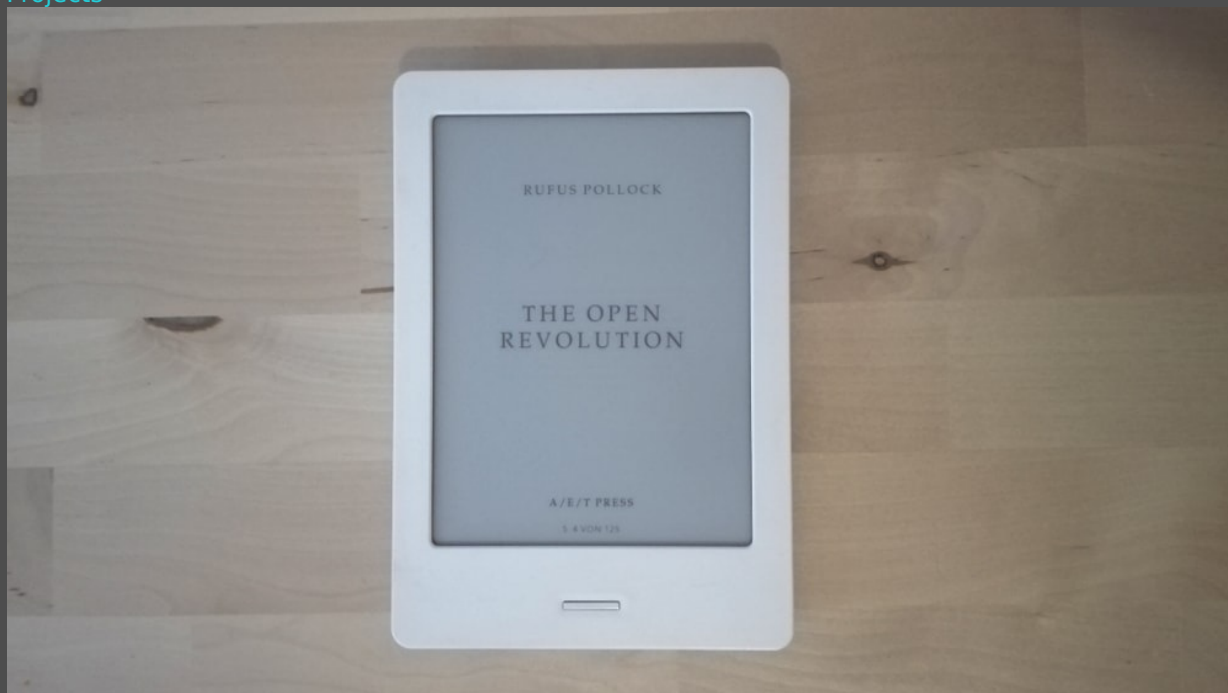


Projects



Kobo Touch Samsung battery mod

Preface

A few days ago I participated in the (in German) Thread: Social Media, RSS, P2P und *die Flucht aus den Datensilos* during the Schockwellenreiter in conversation. Some people are considering alternatives to the existing concepts, as we have to reckon with [significant changes](#) in the next few years due to corporate and political changes. How best to counteract or avoid them. I also read some books about virtual realities and other scientific publications about [Cyberspaces](#). If you don't have a startup and investors are financing your ass, after the complete conversion through the [net neutrality](#) you will worry about whether a thick data silo site with hundreds of plugins and scripts is still really necessary or one should not rather change to a narrow static site. Is RSS perhaps the new alternative for bloggers? And how can this be implemented technically? My comment from the thread:

As I have mentioned here before, I want to link my [Python Onliner](#) with [IPFS](#) on [my own Datenknecht Server](#). So far, all this has been solved via the Linux console and this is too big an obstacle for most people. My idea is You download the PythonOnliner from a website, then press a button (or two) and install IPFS. After that you can start IPFS and only have to put your files into the server folder. The PythonOnliner also tells you which link you have to copy to make your page public. As few terminal \$foo as possible to make it friendlier for users. I wanted to read the RSS list from a text file (or other format) that is managed by the user, which could then be published (or exchanged). It would all go a little slower, but time should not matter. I don't think the idea of the different decentralized ping servers is bad. Maybe we can take [UBlock](#) as an example. UBlock is actually just an administrator for the functions of the software and the individual lists. You can select and deselect lists, enter them yourself or delete them completely. You can also add individual domain addresses within the lists. After an interval set by the user, the individual lists are refreshed. You can publish the lists almost everywhere ([Pastebin](#) or on your own web server or maybe via the [IPFS-API](#)). But I haven't been able to deal with this yet and I also wanted the software to be built up in its basic structure before I work on my further milestones.

Materials

After a few minutes I found a Kobo touch in the box (no idea where I got it from). After some tests with the manual I found out that the battery was damaged, so I checked the internet for information if it could be repaired. The fix is presented as not too difficult. Unfortunately I had no interest to spend 25-30€ on average for a spare battery. First I looked at the data to see what kind of battery it was. This requires 1000mAh, 3.7V and 3.70Wh. Let's take another look in the box. Could this feature phone battery of the Samsung GT-S5230 fit? Fits! And if people want to buy this on the internet, you shouldn't pay more than 5€ or maybe even check your old phones. Disadvantage: The battery is too thick for the case, but I solved the problem with blunt force.



- Kobo Touch
- Samsung GT-S5230 battery
- Antistatic adhesive tape
- [Precision Knife](#)
- Soldering irons and solder
- Old cables
- Safety goggles
- Wire stripper
- Helping hand
- Charge cable
- Computer

Realisation



To be able to repair something, we must first know that something is broken. with the Kobo Touch it is quite simple. If we take a closer look at the e-reader, we see the message that we should load our hardware. If we then connect a power [supply](#) or [USB](#) charging cable nothing happens. When all is well, the corresponding message appears. First we test the procedure recommended by the manufacturer. If that doesn't help, we go online again and in many cases we find the right answer.



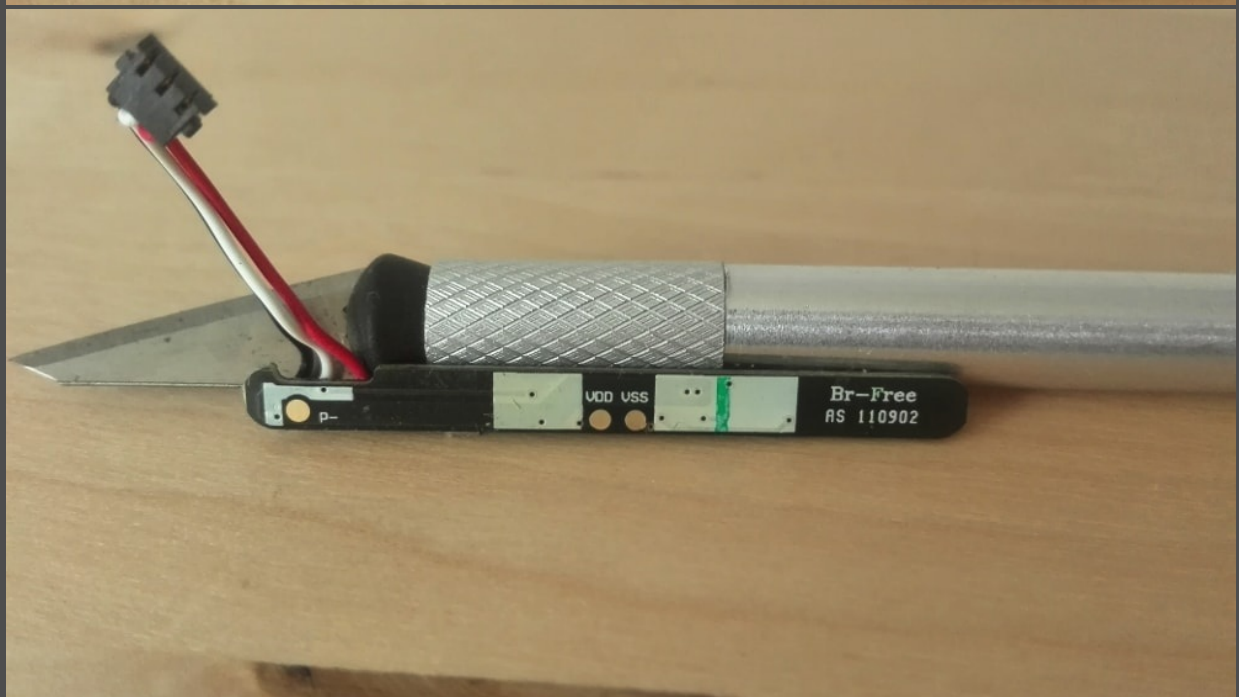
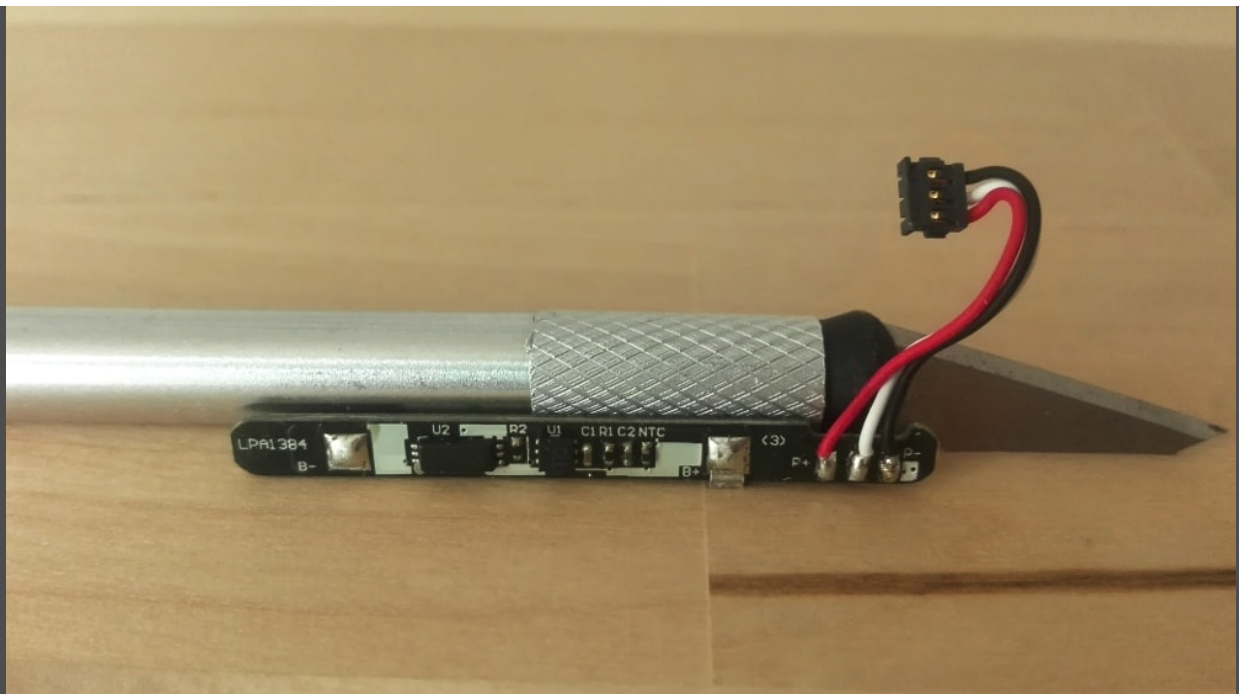
After we have found out how to open the case, we put the back cover aside and analyze the situation. We don't touch anything. We're not unscrewing anything. First we just look with our eyes and think about what we have in front of us. After a while we will notice the black package with the cables on the side. Since most people know what a battery is, we can also assume that this is the power supply. Since the battery is attached to the board with double-sided adhesive tape, we have to get under the battery with a small lever (preferably made of plastic and not metal) and carefully lever it out. You have to use your strength, but at the same time you don't look to break anything. Then we pull the small plug **upwards**. Not to the side and not to the back.



Since we have all read the above linked Instructables Tutorial by Ima Pseudonym, we will orientate the next steps according to this information. First we would have to remove the black adhesive tape from the battery with a sharp knife. We take care not to cut the three cables because we still need them. Altogether there are two layers of tape on the battery and we have to nibble a little with our fingernails to get it right. we work carefully and calmly, because we don't want to cut our fingers with the knife.



Getting the tape off shouldn't be difficult anymore. The board is soldered to the battery with two contacts. If we move the board back and forth, we can break off these contacts carefully. We can see the contacts again better on the two pictures below. In this documentation we will only work with the front (photo with the cables on the right). The right contact is B+, to which the red cable is soldered later. The left contact is B-, to which the black cable is soldered. All additional information can be found in the other tutorial.



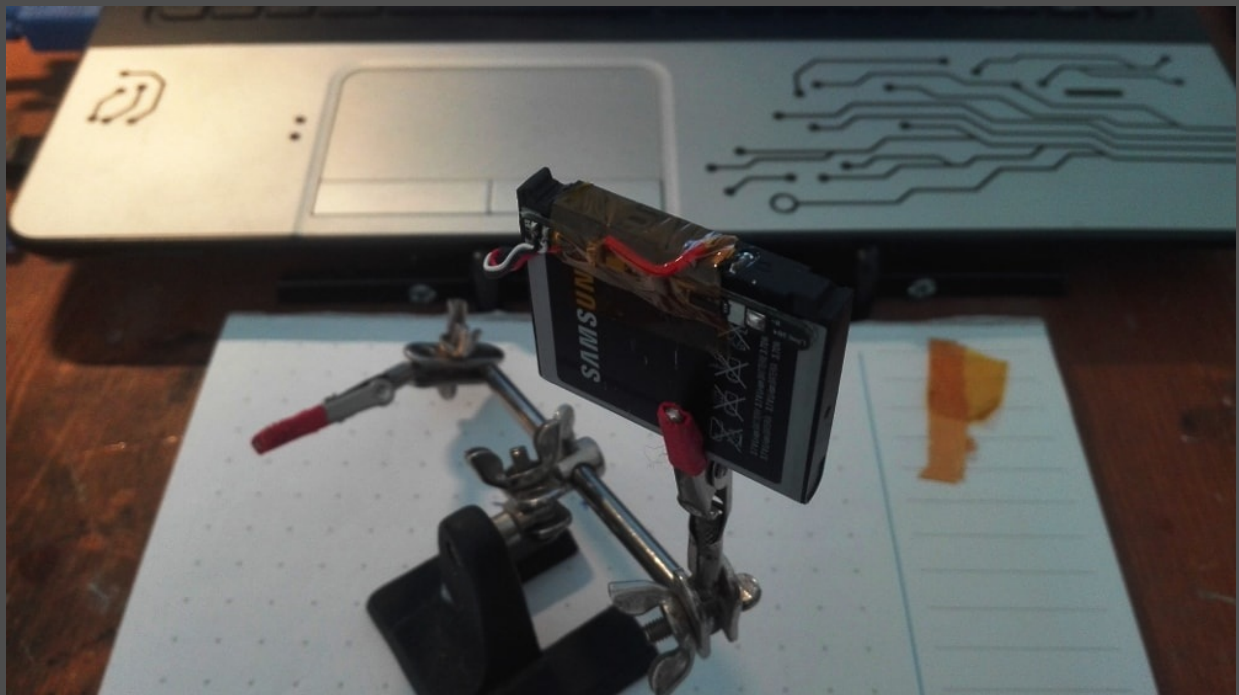
We get cables from an old project, if we don't have one we have to buy the cables. Again, my personal advice: If you want to do more than one project in the future, get one box and put all the

hardware you can find there. DVD players, power supplies, computers, old cables, smartphones or electronic toys. I have five cases. plastics, cables, metals, circuit boards and complete devices. It's only really worth it if you want to fix something more often. But it's not bad to have something like that in the house. As a comparison, with the Samsung battery I have now saved 20€, because I don't have to buy an original product. For a computer power supply you can quickly pay 50-80€. We process the ends of the cables with wire stripper.



The board should be connected to the battery so that the individual components do not fly around in our housing. We will solder the cables together, but bare cables can short-circuit quickly, especially when they are on a battery. To do this, we stick double-sided adhesive tape on the back. We cut it off cleanly and neatly with the handcraft knife. It also helps us with soldering, because the hardware can't slip by mistake.

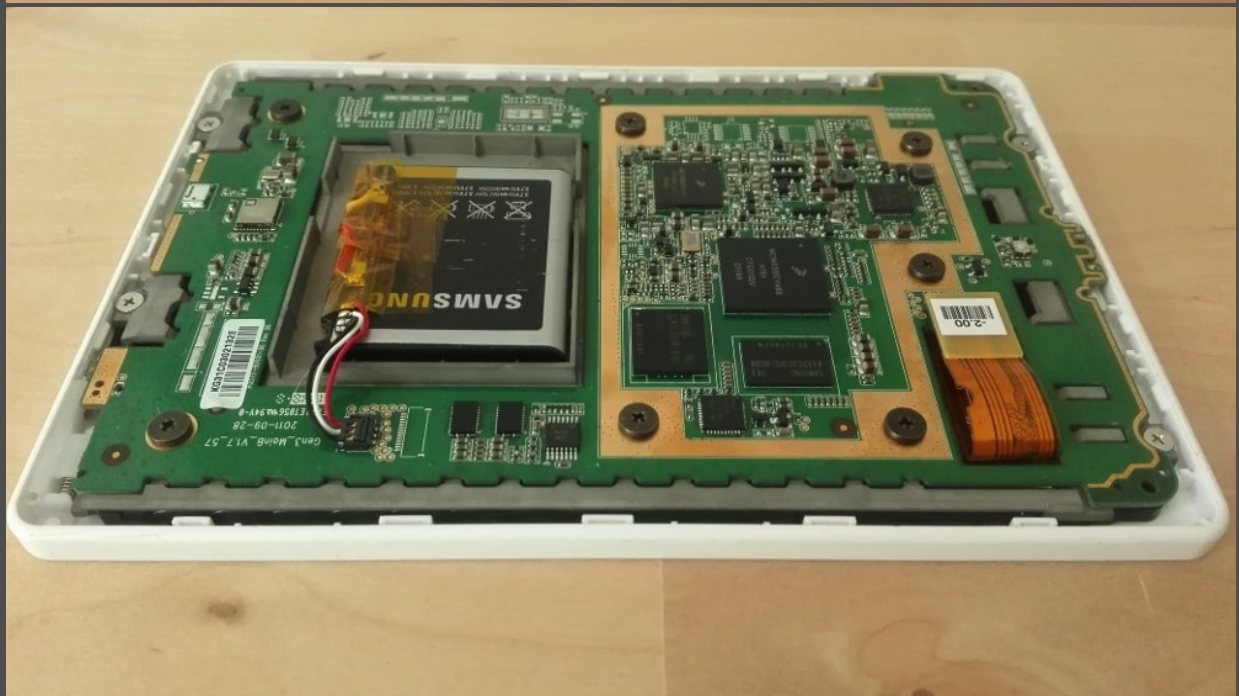
Before we start soldering right now, let's take a closer look at the battery. It has three metal contacts. We're not interested in the contact in the middle. We'll just deal with the left and the right. But which contact is plus and which minus? If we look closely, we will see very small signs (+) and (-) next to the contacts. These are very difficult to spot, but it helps if you hold the object against the window or a lamp. I didn't see it until second sight.



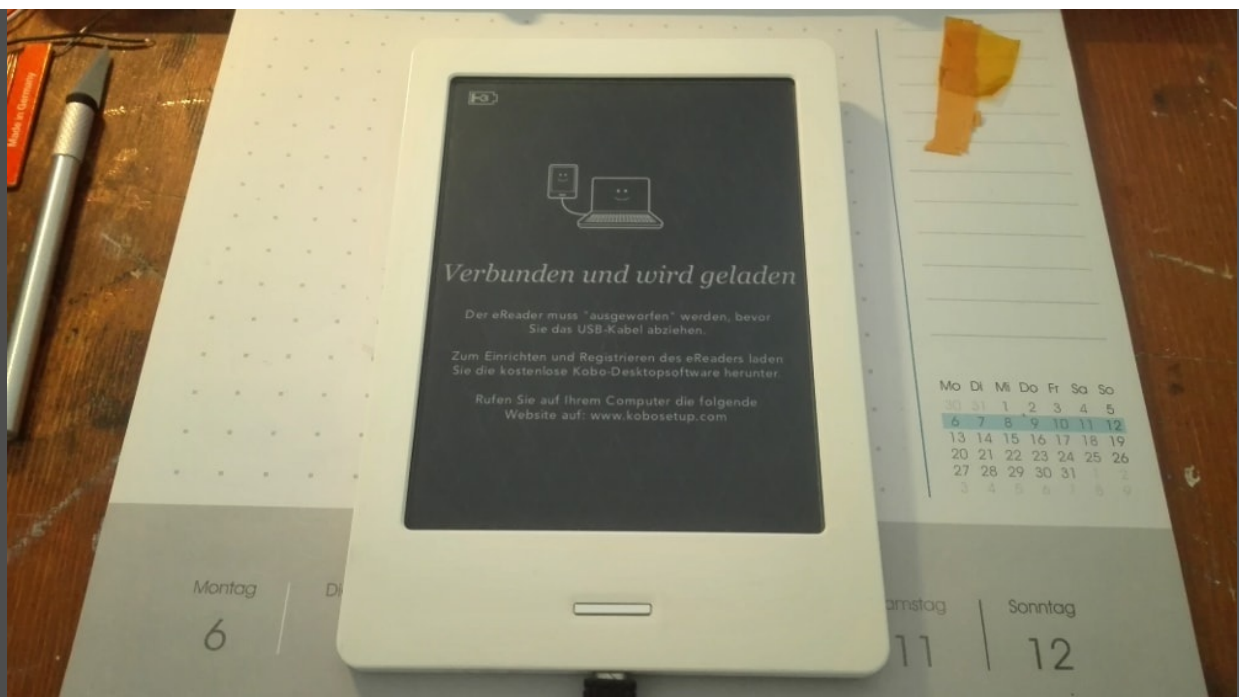
Now we can clamp the battery in the helping hand so that we can work better. Another word of warning. Normally, batteries should not be soldered because they can explode if exposed to too much heat. We only solder at very short intervals and wait in between so that the solder joints can cool down. If you are not sure, find a person (parents, relatives, a [hackerspace](#) in your neighborhood) who knows about electrical engineering and will be happy to help you with your project if kindly asked. Use the safety glasses, because solder can also splash once in a while. When you're younger, work with your parents. Air your room and watch tutorial videos on how to

solder properly and orderly.

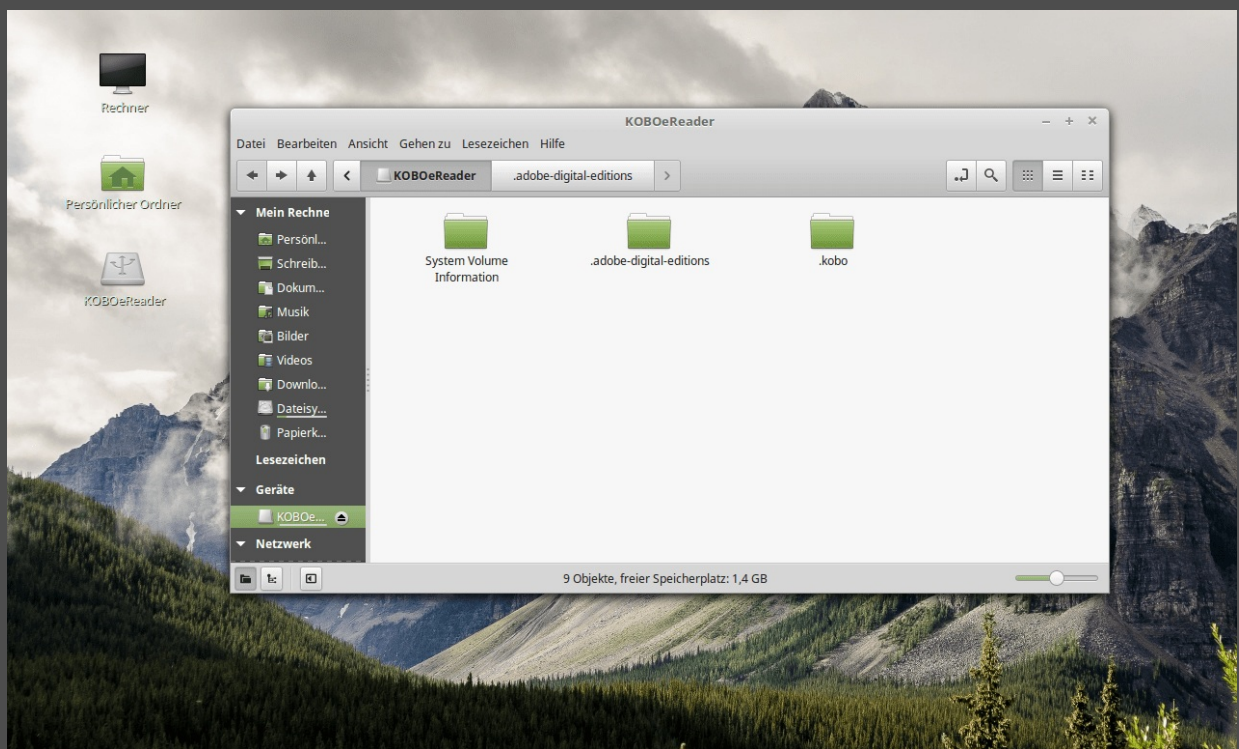
We start with the red wire. We solder this to the two contacts with the (+) plus sign. Then we take the anti static adhesive tape and tape off the solder joints. We'll do the same with the black cable afterwards. Overall, that's not much to do. At the bottom of the picture we see again in detail how everything should look like. If you want to work very precisely, you can also tape off the soldering points on the cables to the boards, but I didn't think that was so important now. These solder points lie only to the plastic housing and should normally not cause any problems. The other side is more important because it also secures the cables so that they cannot come off (if you have soldered messy).



That was already the roughest work and we can put the battery back in place. The old double-sided tape should still stick, so we don't have to glue a new one. Since the battery is thicker than the original, we have to use massive force when putting on the lid to clamp it again. It shouldn't break anything, at least I tried it a few times and every time it was a little easier. Even if the back cover seems very rigid, there is still a little space. In addition, the e-reader has a "real" weight and no longer feels like the cheapest hardware. That's the way it is with me. It must not be too heavy and not too light.



After we have connected our e-reader with power supply to the power outlet, the correct note should appear on our screen. We also smell if something smells burnt and if the back cover of the battery gets hot. If that happens, we take it all apart and start over. When everything is running and we find no errors, we wait until the battery is fully charged and can then connect the hardware to our computer to copy books to the device. Since there is no Kobo desktop software for Linux, the e-reader cannot connect to the Internet. That's boring. Not.



Conclusion

The project was now not difficult to master and is also suitable for beginners. I was quite surprised that the battery from the old feature phone fitted. Personally I haven't learned much now, except that I should look into my equipment box more often, but I have enough projects going on anyway and I don't have to worry about running out of work.

But what also surprised me rather negatively is how often this topic of the broken battery was addressed in different forums and one already speaks of the suspicion of a planned obsolescence. I am not accusing the manufacturer here, because unfortunately our current economic system is structured in such a way that companies have to work with different strategies in order to stay on the market. We can only prevent this if we buy these products and look again for features such as the possibility of repair or we simply buy used hardware on the Internet and simply repair it. Seriously, for me this e-reader is completely sufficient because it can fulfill its goal show me a.pdf to read again. That's all I need.